

VERSION WITH MARKINGS TO SHOW CHANGES MADE:

IN THE SPECIFICATION:

Page 1, before the title, delete "Description".

Before paragraph [0001], change "Description" to --BACKGROUND OF THE
INVENTION--.

Before paragraph [0010], add the heading --SUMMARY OF THE INVENTION--.

Before paragraph [0031], add the heading --BRIEF DESCRIPTION OF THE
DRAWING--.

Before paragraph [0035], add the heading --DETAILED DESCRIPTION OF
PREFERRED EMBODIMENTS--.

Page 12, after the heading "CLAIMS" and before the first claim add --What is
claimed is:--.

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IN THE CLAIMS:

Amend the following claims:

- Claim 4, line 1, change "one of the preceding claims" to --claim 1--.
- Claim 5, line 1, change "one of claims 1, 2 or 3" to --claim 1--.
- Claim 6, line 1, change "one of the preceding claims" to --claim 1--.
- Claim 7, line 1, change "one of the preceding claims" to --claim 1--.

Add the following claims:

8. (New) A linear synchronous motor, comprising:

- sub c2
A1
- at least one primary part defined by a length and having slots for receiving monophase or polyphase windings, said primary part having end pieces extending perpendicular to a direction of movement of the linear motor;
 - at least one secondary part having a series of poles formed by permanent magnets, said secondary part defined by a length which is greater than the length of the primary part in a direction of movement of the linear motor;
 - means, associated to the primary part, for changing the magnetic force in the direction of movement of the linear motor in the region of the end pieces of the primary part,
 - wherein an air gap of the end pieces is formed in such a way that a continuous change occurs in the magnetic force in the movement direction of the linear motor in the region of the end pieces of the primary part.

9. (New) The linear synchronous motor of claim 8, wherein each said end piece has a part adjacent the air gap, said part of the end piece having a geometry selected in accordance with the following relationship:

$$y(x) = \delta_0 \left[\frac{1}{1 - \frac{x}{x_0} \left[1 - \frac{1}{1 + \frac{y_0}{\delta_0}} \right]} - 1 \right]$$

wherein

- δ_0 is the magnetically active air gap between the secondary part and the primary part, including a height of the permanent magnets,
 x_0 is the extent of the part of the end piece in the direction of movement of the linear motor having a non-constant air gap,
 y_0 is a height of the part of the end piece having a non-constant air gap at x_0 and,
 $y(x)$ is the coordinate of the part of the end piece having a non-constant air gap at the point x .

10. (New) The linear synchronous motor of claim 8, wherein a pole gap is defined between neighboring poles of the secondary part at an angle which differs from 90° with respect the direction of movement of the linear motor.

A₁
11. (New) The linear synchronous motor of claim 8, wherein the pole gap has a varying gap width.

sub B₅
12. (New) The linear synchronous motor of claim 8, wherein the end pieces include at least one partial stack of laminations made of ferromagnetic material and directed essentially perpendicular to the direction of movement of the linear motor.

13. (New) The linear synchronous motor of claim 8, wherein the end pieces are configured for attachment onto the primary part.

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REMARKS

This Amendment is submitted preliminary to the issuance of an Office Action in the present application.

Applicant has amended claims 4 to 7 to remove any multiple dependency of the claims, and submits herewith new claims 8 to 13. No new matter has been added. In addition, applicant has amended the specification to present it with proper headings.

When the Examiner takes this application up for action, he is requested to take the foregoing into account.

The Commissioner is hereby authorized to charge fees which may be required, or credit any overpayment to Deposit Account No. 06-0502.

Respectfully submitted,

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